IN THE CLAIMS:

Claims 1-23 (Cancelled)

Claim 24 (new): An electric machine for saving energy when connected with an external power source, energy savings of the electric machine being compared to a state-of-the-art energy-saving-modified conventional motor, the conventional motor originally having conventional windings with a conventional wire cross sectional area, the conventional motor being modified to create a save energy by having the conventional windings separated into a separate primary winding displaced from a secondary winding, the secondary winding being connected to a capacitor in series electrically, the capacitor being selected to have a capacitance equal to the theoretically rated horsepower of the motor times the square of the constant base voltage times a factor of 1.5 divided by the square of the phase line voltage, the electric machine comprising:

a plurality of main windings, each of the main windings having a first conductor having a first wire cross sectional area and a second conductor having a second wire cross sectional area, wherein the first conductor is selected to have a larger wire cross sectional area than the second wire cross sectional area, each of the first conductors and the second conductors being operatively coupled to each other and capable of being electrically coupled to the external power source, such that a field resulting from current in the second conductor is in an opposite phase relation to a field resulting from current in the first conductor during operation of the electric machine; and

at least one capacitor operatively coupled in series to the second conductor.

Claim 25 (new): The electric machine of claim 24, wherein the at least one capacitor is selected to have a combined capacitance determined by multiplying the actual full load of the conventional motor in Amperes by an empirical factor and dividing by the square of the line voltage in Volts.

Claim 26 (new): The electric machine of claim 25, wherein the empirical factor is selected in a range from about 0.25×10^6 to about 0.3×10^6, and the resulting capacitance is in micro-Farads.

Claim 27 (new): The electric machine of claim 24, wherein the second conductor has a second wire cross sectional area of about 1/3 of the sum of the cross sectional areas of the first conductor and the second conductor in each of the plurality of main windings.

Claim 28 (new): The electric machine of claim 27, wherein the length of the second conductor is ½ of the length of the first conductor in each of the main windings, respectively.

Claim 29 (new): The electric machine of claim 24, wherein the electric machine is configured as a generator.

Claim 30 (new): The electric machine of claim 24, wherein the electric machine is configured as a single phase electric machine and the opposite phase relation is about 180 degrees.

Claim 31 (new): The electric machine of claim 30, further comprising:

a start winding coupled in a series circuit with a switch and a start capacitor, the series circuit being coupled in parallel with the main winding;

wherein each of the first conductors of the main winding is divided into two sections; and

wherein each of the second wires of the respective main winding is divided into two sections, each of the two sections of the second wires being divided by a capacitor, the capacitor being coupled in series electrically with each of the two sections of each of the second wires such that the electric machine is capable of operation at more than one voltage.

Claim 32 (new): The electric machine of claim 30, wherein the plurality of main windings is two main windings.

Claim 33 (new): The electric machine of claim 24, wherein the electric machine is configured as a multiphase electric machine.

Claim 34 (new): The electric machine of claim 33, wherein the electric machine is configured as a three-phase machine and the opposite phase relation of the second conductor is 120 degrees from the phase of the field generated by current in the first conductor in each of the respective main windings.

Claim 35 (new): The electric machine of claim 34, wherein the plurality of main windings are configured in a star configuration.

Claim 36 (new): The electric machine of claim 34, wherein the plurality of main windings are configured in a delta configuration.

Claim 37 (new): A method of winding a main winding, comprising:

selecting a first wire size for a first conductor and a second wire size for a second conductor, wherein the first wire size is larger than the second wire size;

winding the first conductor and the second conductor simultaneously during at least a portion of the winding of the main winding; and

coupling the second conductor with a capacitor in series electrically.

Claim 38 (new): The method of claim 37, further comprising a step of selecting the capacitor to have a combined capacitance determined by multiplying the actual full load of the conventional motor in Amperes by an empirical factor and dividing by the square of the line voltage in Volts.

Claim 39 (new): The method of claim 38, wherein the step of selecting uses a range of about 0.25×10^6 to about 0.3×10^6 in selecting a capacitor with a capacitance sized in micro-Farads.

Claim 40 (new): The method of claim 37, further comprising: selecting a cross sectional area of the second conductor such that the cross sectional area of the second

conductor is about one-third of a total wire cross sectional area for both the first conductor and the second conductor.

Claim 41 (new): The method of claim 40, wherein the step of selecting a first wire size selects a first wire size having a length that is ½ of the length of the first conductor.